

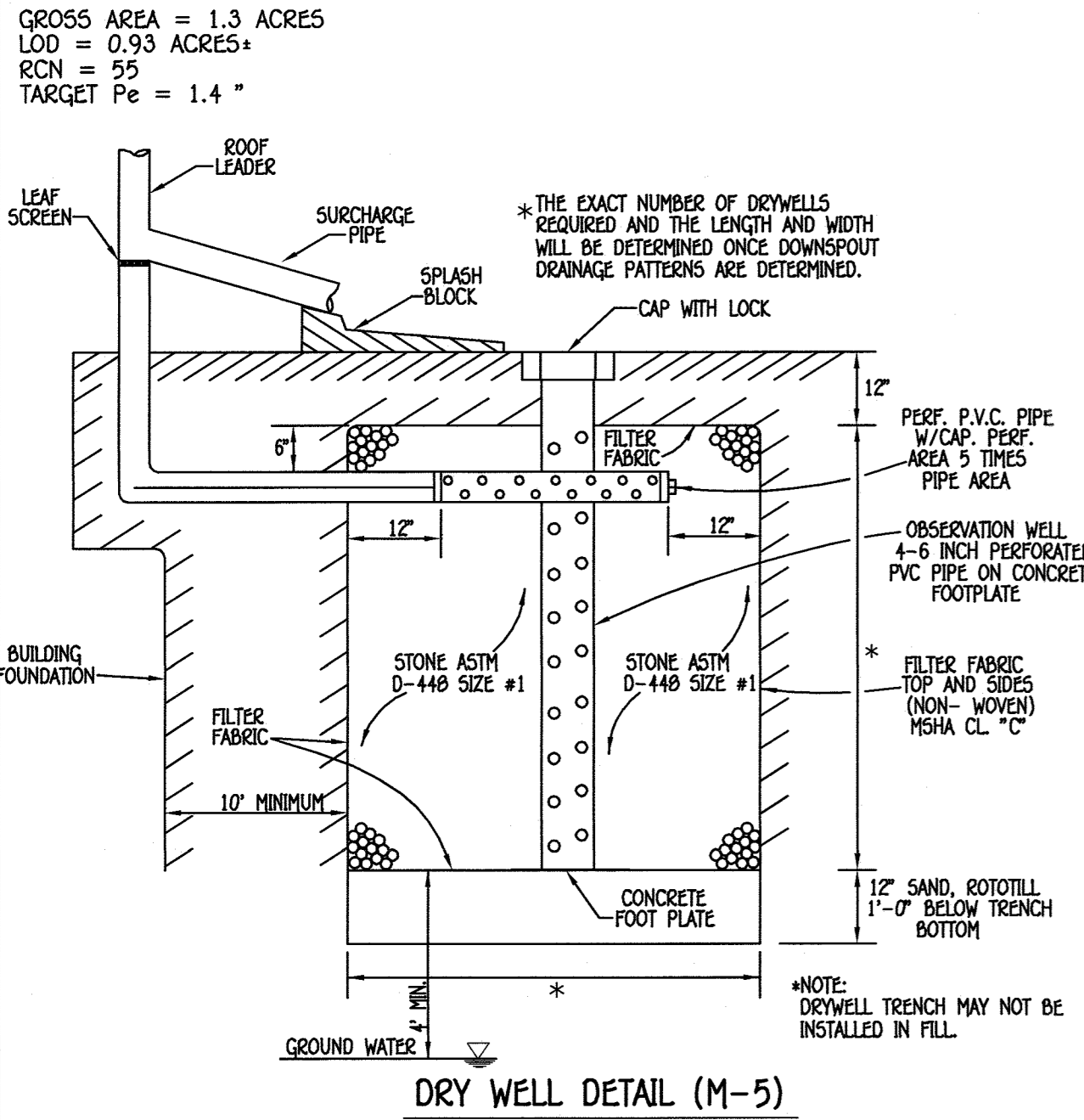
SHEET INDEX	
SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	EXISTING CONDITIONS AND DEMOLITION PLAN
3	ENVIRONMENTAL CONCEPT PLAN AND CONCEPTUAL SEDIMENT & EROSION CONTROL PLAN

SOILS LEGEND			
SOIL	NAME	CLASS	K-VALUE
GhB	Glenelg-Urban land complex, 0 to 8 percent slopes	B	0.43
LoB	Lesore-Montalto Urban land complex, 0 to 8 percent slopes	B	0.64

HOWARD COUNTY SOILS MAP PAGE 14

STORMWATER MANAGEMENT PRACTICES						
LOT NO.	PERMEABLE CONCRETE (A-2) Y/N, NUMBER	DISCONNECTION OF ROOFTOP RUNOFF (M-1) Y/N, NUMBER	DISCONNECTION OF NON-ROOFTOP RUNOFF (M-2) Y/N, NUMBER	INFILTRATION BERMS (M-4) Y/N, NUMBER	DRY WELLS (M-5) Y/N, NUMBER	MICRO-BIORETENTION (M-6) Y/N, NUMBER
1	NO	NO	NO	NO	YES, THREE (3)	YES, ONE (1)
2	NO	NO	NO	NO	YES, THREE (3)	YES, ONE (1)

STORMWATER MANAGEMENT SUMMARY			
AREA ID.	ESDV REQUIRED CU.FT.	ESDV PROVIDED CU.FT.	REMARKS
SITE	1,262 Cu.Ft.	2,018 Cu.Ft.	SIX (6) DRYWELLS (M-5) & TWO (2) MICRO-BIORETENTION (M-6)



**STORMWATER MANAGEMENT NOTES**

- STORMWATER MANAGEMENT IS PROVIDED IN ACCORDANCE WITH CHAPTER 5, "ENVIRONMENTAL SITE DESIGN" OF THE 2007 MARYLAND STORMWATER MANAGEMENT DESIGN MANUAL, EFFECTIVE MAY 4, 2010.
- MAXIMUM CONTRIBUTING ROOF TOP AREA TO EACH DOWNSPOUT SHALL BE 500 SQ. FT. OR LESS.

**OPERATION & MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED DRY WELLS (M-5)**

- THE OWNER SHALL INSPECT THE MONITORING WELLS AND STRUCTURES ON A QUARTERLY BASIS AND AFTER EVERY HEAVY STORM EVENT.
- THE OWNER SHALL RECORD THE WATER LEVELS AND SEDIMENT BUILD UP IN THE MONITORING WELLS OVER A PERIOD OF SEVERAL DAYS TO ENSURE TRENCH DRAINAGE.
- THE OWNER SHALL MAINTAIN A LOG BOOK TO DETERMINE THE RATE AT WHICH THE FACILITY DRAINS.
- WHEN THE FACILITY BECOMES CLOGGED SO THAT IT DOES NOT DRAIN DOWN WITHIN A SEVENTY-TWO (72) HOUR TIME PERIOD, CORRECTIVE ACTION SHALL BE TAKEN.
- THE MAINTENANCE LOG BOOK SHALL BE AVAILABLE TO HOWARD COUNTY FOR INSPECTION TO INSURE COMPLIANCE WITH OPERATION AND MAINTENANCE CRITERIA.
- ONCE THE PERFORMANCE CHARACTERISTICS OF THE INFILTRATION FACILITY HAVE BEEN VERIFIED, THE MONITORING SCHEDULE CAN BE REDUCED TO AN ANNUAL BASIS UNLESS THE PERFORMANCE DATA INDICATES THAT A MORE FREQUENT SCHEDULE IS REQUIRED.

DRY WELL CHART						
LOT No.	DRYWELL No.	AREA OF ROOF PER DRYWELL	VOLUME PROVIDED	VOLUME REQUIRED	AREA OF TREATMENT	L W D
LOT 1	1A	828 SQ.FT.	92 CU.FT.	120 CU.FT.	100%	10' x 6' x 5'
LOT 1	1B	700 SQ.FT.	78 CU.FT.	96 CU.FT.	100%	8' x 6' x 5'
LOT 1	1C	1,020 SQ.FT.	114 CU.FT.	140 CU.FT.	100%	10' x 7' x 5'
LOT 2	2A	700 SQ.FT.	78 CU.FT.	96 CU.FT.	100%	8' x 6' x 5'
LOT 2	2B	828 SQ.FT.	92 CU.FT.	120 CU.FT.	100%	10' x 6' x 5'
LOT 2	2C	1,020 SQ.FT.	114 CU.FT.	140 CU.FT.	100%	10' x 7' x 5'

Approved: Department Of Planning And Zoning

*Chad...* 6.6.19 Date  
Chief, Development Engineering Division

*Kathie...* 6.5.19 Date  
Chief, Division Of Land Development

**FISHER, COLLINS & CARTER, INC.**  
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
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ELLICOTT CITY, MARYLAND 21042  
410.314.2899

# ENVIRONMENTAL CONCEPT PLAN

# GROVE PROPERTY

## LOTS 1 & 2

### ZONING: R-20 (RESIDENTIAL: SINGLE DISTRICT)

### TAX MAP No. 18 GRID No. 13 PARCEL No. 047

### SECOND ELECTION DISTRICT

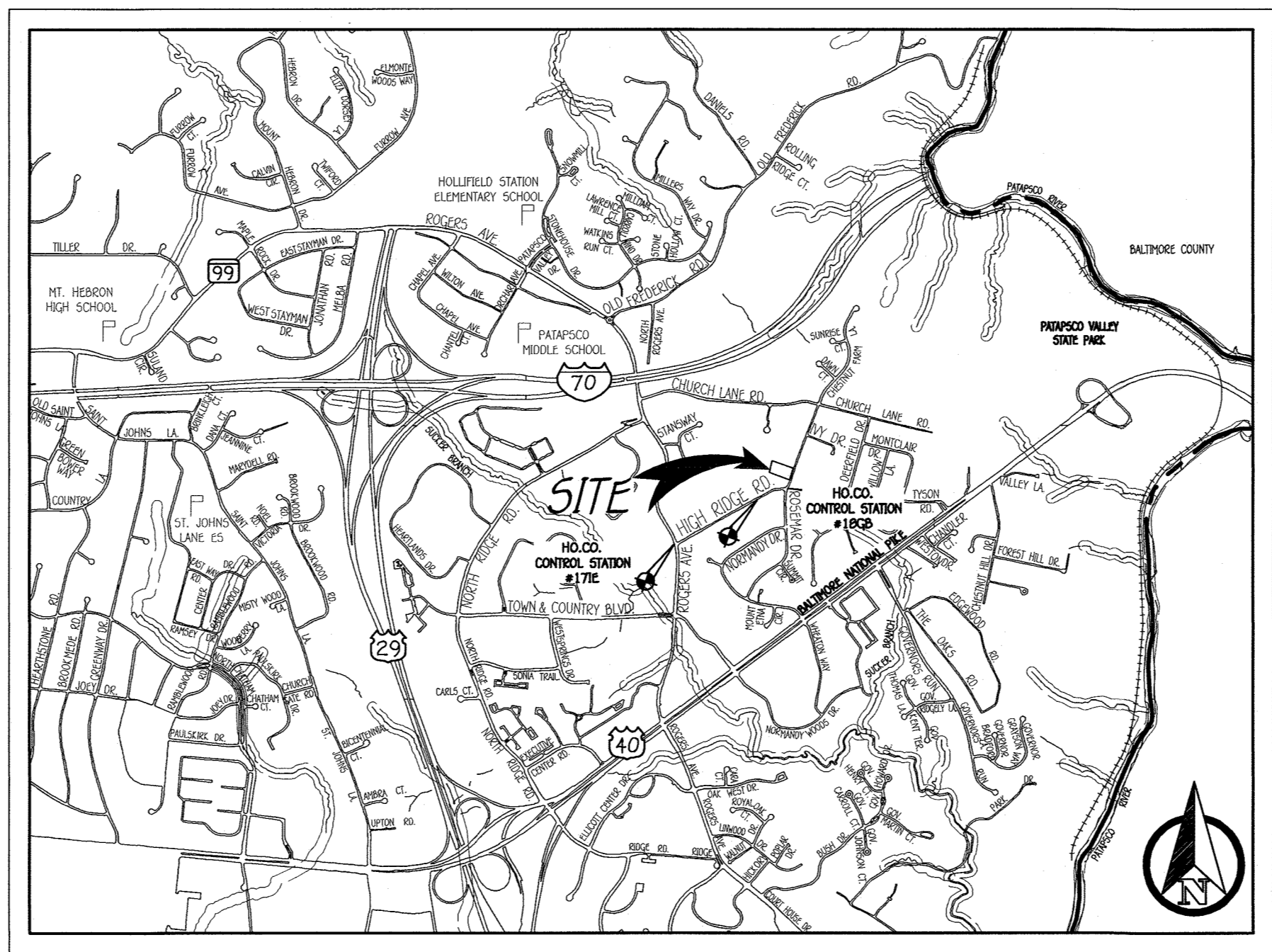
### HOWARD COUNTY, MARYLAND

**GENERAL NOTES**

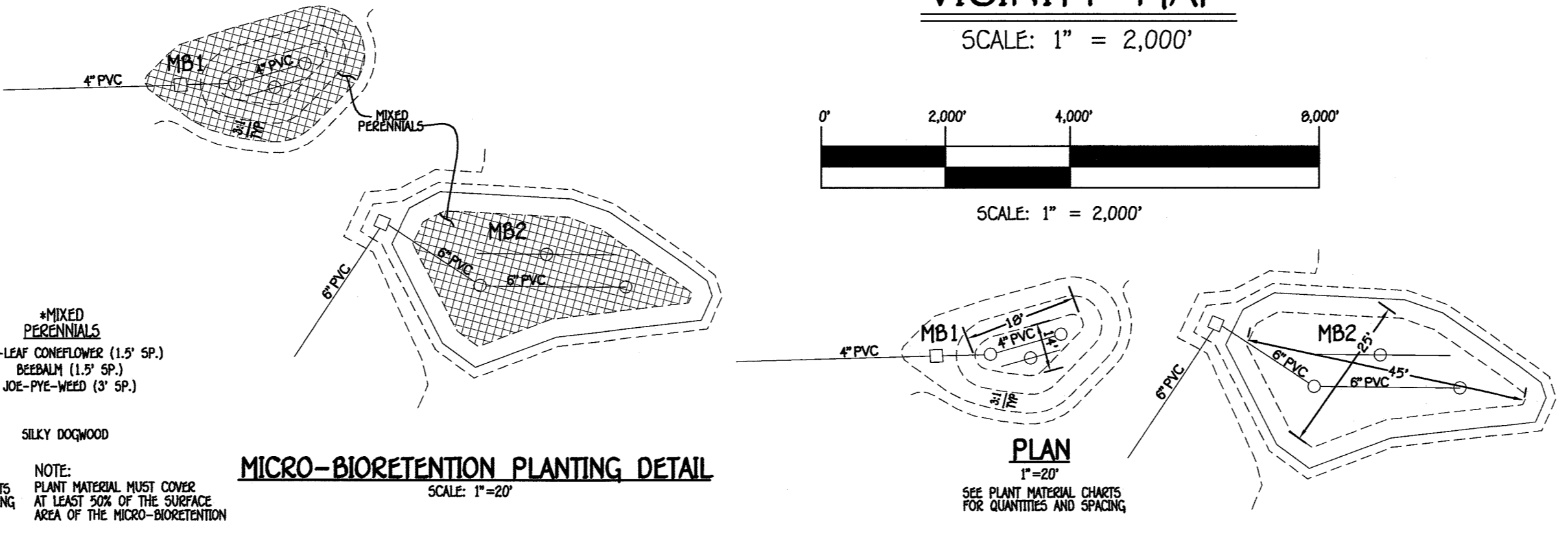
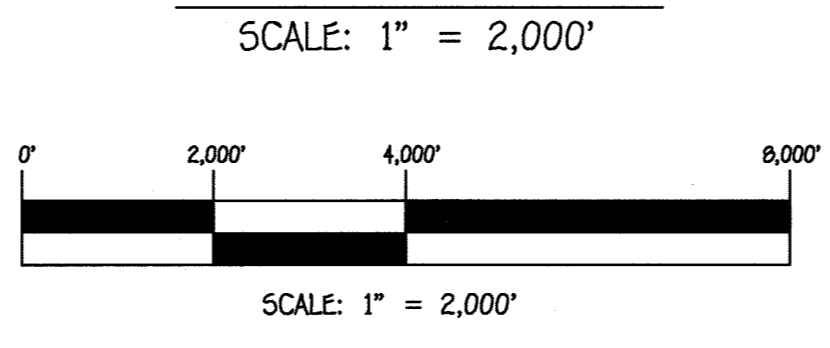
- THE SUBJECT PROPERTY IS ZONED R-20 (PER 10/06/13 COMPREHENSIVE ZONING PLAN.)
- THIS PROPERTY IS SUBJECT TO THE REQUIREMENTS OF SECTION 16.127 RESIDENTIAL INFILL DEVELOPMENT.
- BOUNDARY IS BASED ON A FIELD RUN SURVEY PERFORMED BY FISHER, COLLINS & CARTER ON OR ABOUT FEBRUARY, 2018.
- CONTOURS ARE BASED ON A TOPOGRAPHIC FIELD RUN SURVEY PERFORMED BY FISHER, COLLINS & CARTER, ON OR ABOUT JANUARY 14, 2018.
- COORDINATES BASED ON NAD83 MARYLAND COORDINATE SYSTEM AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATIONS NO. 18QB AND NO. 171E: HOWARD COUNTY MONUMENT NO. 18QB N 591,921.311 E 1,367,395.975 ELEV. 439.29 HOWARD COUNTY MONUMENT NO. 171E N 591,269.4091 E 1,366,174.999 ELEV. 360.32
- STORM WATER MANAGEMENT IS IN ACCORDANCE WITH THE M.D.E. STORM WATER DESIGN MANUAL, VOLUMES I & II, REVISED 2009. THIS PLAN PROPOSES THE USE OF ONE (1) M-6 MICRO-BIORETENTION FACILITIES AND SIX (6) M-5 DRY WELLS AND A NON ROOFTOP DISCONNECTION CREDIT (M-2).
- THIS PROPERTY IS LOCATED WITHIN THE METROPOLITAN DISTRICT. PUBLIC WATER AND SEWER WILL BE UTILIZED FOR THIS PROJECT.
- ANY DAMAGE TO THE COUNTY'S RIGHT-OF-WAY SHALL BE CORRECTED AT THE DEVELOPER'S EXPENSE.
- NO GRADING, REMOVAL OF VEGETATIVE COVER OR TREES, PAVING AND NEW STRUCTURES SHALL BE PERMITTED WITHIN THE REQUIRED WETLANDS, STREAMS) OR THEIR BUFFERS, FOREST CONSERVATION EASEMENT AREAS AND 100 YEAR FLOODPLAIN.
- LANDSCAPING WILL BE PROVIDED AT THE FINAL PLAN STAGE OF THIS PROJECT.
- FOREST CONSERVATION WILL BE ADDRESSED AT THE FINAL PLAN STAGE OF THIS PROJECT. FOREST BANK OR FEE-IN-LIEU WILL BE UTILIZED.
- SOIL BORING INFORMATION WILL BE PROVIDED AT THE NEXT PLAN STAGE OF THIS PROJECT.
- APPROVAL OF THIS ECP DOES NOT CONSTITUTE APPROVAL OF SUBSEQUENT OR ASSOCIATED SUBDIVISION OR SITE DEVELOPMENT PLANS OR RED-LINE REVISIONS. REVIEW OF THIS PROJECT FOR COMPLIANCE WITH THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS AND THE HOWARD COUNTY ZONING REGULATIONS SHALL OCCUR AT THE SUBDIVISION PLAN, SITE DEVELOPMENT PLAN, OR RED-LINE REVISION PROCESSES. THE APPLICANT AND CONSULTANT SHOULD EXPECT ADDITIONAL AND MORE DETAILED REVIEW COMMENTS (INCLUDING COMMENTS THAT MAY ALTER THE OVERALL SITE DESIGN) AS THE PROJECT PROGRESSES THROUGH THE PLAN REVIEW PROCESS.
- THE DEVELOPER INTENDS TO PAY A FEE IN LIEU OF OPEN SPACE IN THE AMOUNT OF \$1,500.00
- THIS PLAN IS SUBJECT TO ALTERNATIVE COMPLIANCE (W-10-20) WHICH WAS APPROVED BY THE PLANNING DIRECTOR ON APRIL 10, 2019 FOR ALTERNATIVE COMPLIANCE TO SECTION 16.1205(A)(7), FOREST RETENTION PRIORITIES: STATE CHAMPION TREES, TREES 75% OF THE DIAMETER OF STATE CHAMPION TREES, AND TREES 20 INCH DBH METERS OR LARGER. FOR THE REMOVAL OF SPECIMEN TREES #1, #3, #4, AND #8, APPROVAL IS SUBJECT TO THE FOLLOWING CONDITIONS:
  - ALTERNATIVE COMPLIANCE APPROVAL IS LIMITED TO THE REMOVAL OF SPECIMEN TREES #1, #3, #4, AND #8 AS DEPICTED ON THE EXHIBIT. ANY PROPOSAL TO REMOVE ANY OTHER SPECIMEN TREE WILL REQUIRE A NEW ALTERNATIVE COMPLIANCE REQUEST.
  - A MINIMUM OF EIGHT (8), NATIVE 2.5"-3" CALIBER, SHADE TREES SHALL BE PROVIDED AS MITIGATION FOR THE REMOVAL OF SPECIMEN TREES FROM THE PROPERTY. LANDSCAPING SURETY IN THE AMOUNT OF \$300.00 PER TREE SHALL BE PROVIDED WITH THE APPLICANT'S GRADING PERMIT AS PART OF THE SITE DEVELOPMENT PLAN.
  - IT IS RECOMMENDED THAT THE APPLICANT TRY TO SAVE SPECIMEN TREE #3 BY HAVING AN ARBORIST EXPLORE METHODS TO PRESERVE THE TREE WITH ROOT TRAINING PER THE FOREST CONSERVATION MANUAL EXHIBIT 5-15 ROOT TRAINING.

**SITE ANALYSIS DATA CHART**

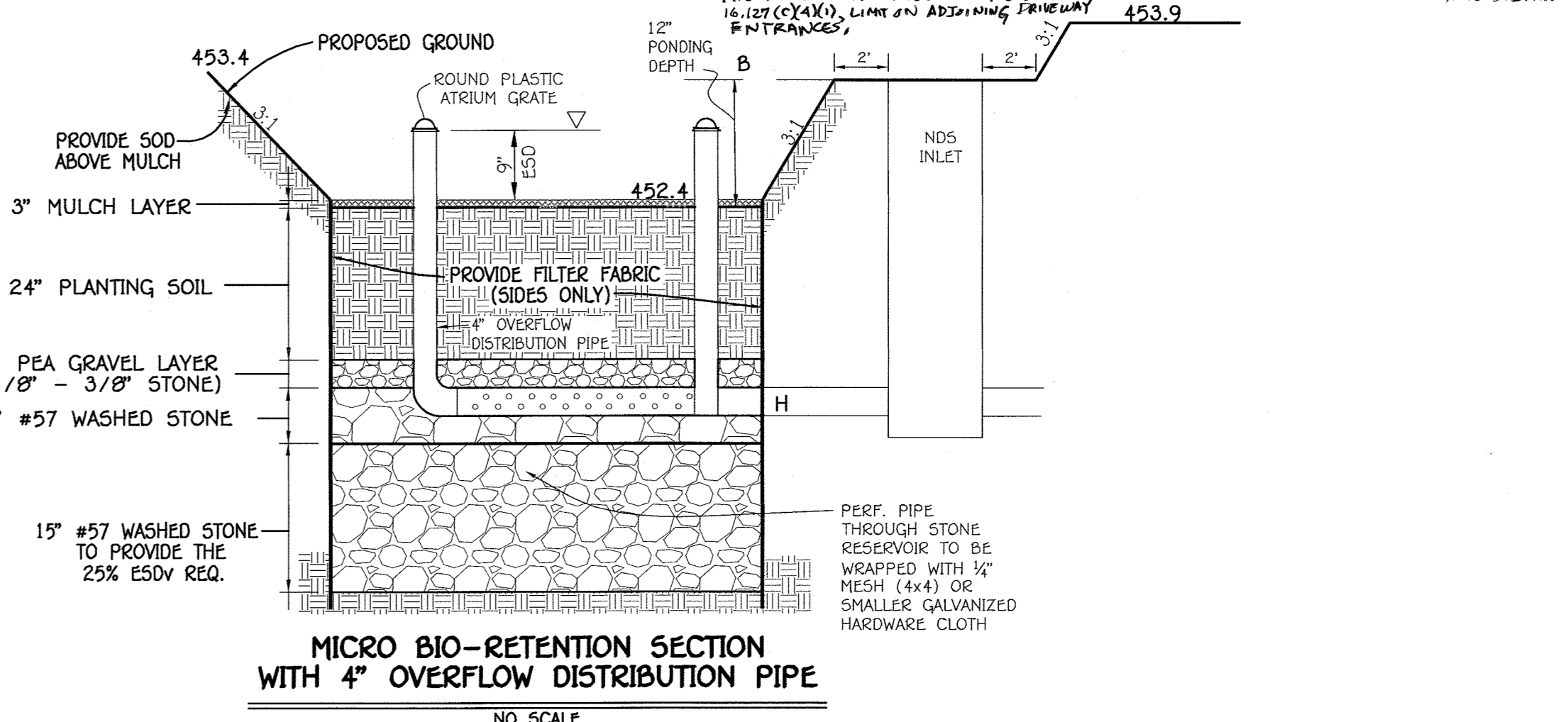
- TOTAL AREA OF THIS SUBMISSION = 56,295 Sq.Ft. (1.29 AC.+)
- LOT 1 = 31,895
- LOT 2 = 23,115
- R.O.W. = 1,295
- LIMIT OF DISTURBED AREA = 0.93 AC.+
- PRESENT ZONING DESIGNATION = R-20;
- PROPOSED USE: SINGLE FAMILY DETACHED HOUSING
- DENSITY ALLOWED: 2 UNITS/ACRE X 1.3 = 2 UNITS
- OPEN SPACE: FEE-IN-LIEU REQUIRED
- BUILDING COVERAGE OF SITE: 5,220 SQ.FT. OR 9%
- NO PREVIOUS HOWARD COUNTY FILES
- TOTAL AREA OF FLOODPLAIN LOCATED ON SITE 0 AC.
- TOTAL AREA OF SLOPES IN EXCESS OF 15% = 0 AC. (0 AC. 25% OR GREATER)
- TOTAL AREA OF WETLANDS (INCLUDING BUFFER) LOCATED ON SITE = 0 AC.+
- TOTAL FOREST = 0 AC.
- TOTAL GREEN OPEN AREA = 1.07 AC.+
- TOTAL IMPERVIOUS AREA = 0.22 AC. (17% OF LOT AREAS)
- AREA OF ERODIBLE SOILS = 0.93 AC.



**VICINITY MAP**



MICRO-BIORETENTIONS PLANT MATERIAL			
QUANTITY	NAME	MAXIMUM SPACING (FT.)	
MB1			
10	70 MIXED PERENNIALS	1.5 TO 3.0 FT.	
1	2 SILKY DOGWOOD	PLANT AWAY FROM INFLOW LOCATION	



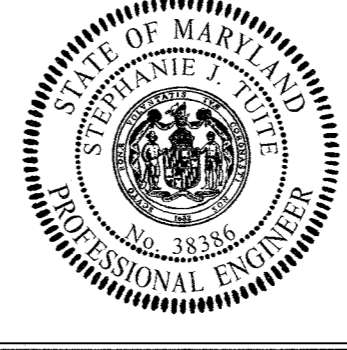
**OPERATION & MAINTENANCE SCHEDULE FOR MICRO-BIORETENTION (M-6)**

- THE OWNER SHALL MAINTAIN THE PLANT MATERIAL, MULCH LAYER AND SOIL LAYER ANNUALLY. MAINTENANCE OF MULCH AND SOIL IS LIMITED TO CORRECTING AREAS OF EROSION OR WASH OUT. ANY MULCH REPLACEMENT SHALL BE DONE IN THE SPRING. PLANT MATERIAL SHALL BE CHECKED FOR DISEASE AND INSECT INFESTATION AND MAINTENANCE WILL ADDRESS DEAD MATERIAL AND PRUNING. ACCEPTABLE REPLACEMENT PLANT MATERIAL IS LIMITED TO THE FOLLOWING: 2000 MARYLAND STORMWATER DESIGN MANUAL VOLUME II, TABLE A-4.1 AND 2.
- THE OWNER SHALL PERFORM A PLANT IN THE SPRING AND IN THE FALL OF EACH YEAR. DURING THE INSPECTION, THE OWNER SHALL REMOVE DEAD AND DISEASED VEGETATION CONSIDERED BEYOND TREATMENT, REPLACE DEAD PLANT MATERIAL WITH ACCEPTABLE REPLACEMENT PLANT MATERIAL. TREAT DISEASED TREES AND SHRUBS AND REPLACE ALL DEFICIENT STAKES AND WIRES.
- THE OWNER SHALL INSPECT THE MULCH EACH SPRING. THE MULCH SHALL BE REPLACED EVERY TWO TO THREE YEARS. THE PREVIOUS MULCH LAYER SHALL BE REMOVED BEFORE THE NEW LAYER IS APPLIED.
- THE OWNER SHALL CORRECT SOIL EROSION ON AN AS NEEDED BASIS, WITH A MINIMUM OF ONCE PER MONTH AND AFTER EACH HEAVY STORM.

**PROFESSIONAL CERTIFICATION**

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 38366, EXPIRATION DATE: 01/12/2020.

*Supran...* 5/30/19  
SIGNATURE OF PROFESSIONAL ENGINEER DATE



**OWNER/DEVELOPER**

COLUMBIA BUILDERS  
P.O. BOX 999  
COLUMBIA, MD 21044  
JIM GREENFIELD  
443-324-4732

TITLE SHEET  
**GROVE PROPERTY**  
8438 HIGH RIDGE ROAD  
ELLICOTT CITY, MD 21043

TAX MAP NO.: 18 GRID: 13 PARCEL NO:47  
ZONED R-20  
SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
SCALE: AS SHOWN DATE: APRIL, 2019  
SHEET 1 OF 3

SOILS LEGEND			
SOIL	NAME	CLASS	K VALUE
GhB	Glenelg-Urban land complex, 0 to 8 percent slopes	B	0.43
LoB	Leyore-Montalto Urban land complex, 0 to 8 percent slopes	B	0.64

HOWARD COUNTY SOILS MAP PAGE 14

LEGEND	
SYMBOL	DESCRIPTION
---	EXISTING CONTOUR 2' INTERVAL
---	EXISTING CONTOUR 10' INTERVAL
---	EXISTING FENCE
---	EXISTING STORM DRAIN
---	EXISTING WELL
---	EXISTING WATER LINE
---	EXISTING SEWER LINE
---	EXISTING OVERHEAD WIRE
---	BUILDING AND DRIVES TO BE REMOVED
---	EXISTING PAVING
---	EXISTING TREE LINE
---	SOIL LINES AND TYPES
---	DENOTES EXISTING TREES TO BE REMOVED
---	DENOTES EXISTING TREES TO REMAIN
---	SPECIMEN TREE
---	CRITICAL ROOT ZONE

SPECIMEN TREE LIST				
KEY (#)	SPECIES	SIZE (in. dbh)	CRZ (feet radius)	COMMENTS
1	WHITE ASH	34	51	GOOD TO BE REMOVED
2	TULIP POPLAR	39	58.5	FAIR CONDITION, SOME DIEBACK TO REMAIN
3*	RED MAPLE	30.5	45.75	FAIR CONDITION, SOME DIEBACK TO BE REMOVED
4	RED MAPLE	32	48	POOR CONDITION, MAJOR TRUNK ROT TO BE REMOVED
5	TULIP POPLAR	31.5	47.25	TWIN STEMS BELOW BH TO REMAIN
6	TULIP POPLAR	31	46.5	TRIPLE STEMS BELOW BH TO REMAIN
7	WHITE ASH	48	72	MULTI-STEMMED ABOVE BH, LIKELY OFFSITE, POOR CONDITIONS, EVIDENCE OF ASH BORDER TO REMAIN
8	WHITE ASH	32	48	FAIR CONDITION, SOME DIEBACK TO BE REMOVED

\*SEE GENERAL NOTE 15

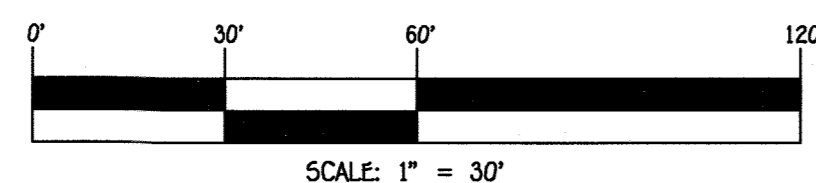


Approved: Department Of Planning And Zoning  
 Chief, Development Engineering Division  
 Chief, Division Of Land Development

6.6.19  
Date

6.5.19  
Date

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 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
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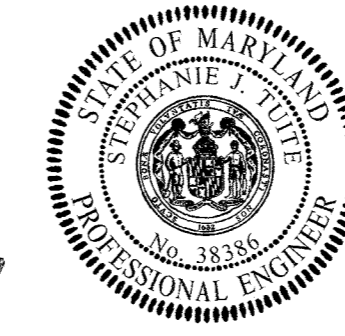


PARCEL 254  
 HOWARD COUNTY CENTER FOR THE ARTS  
 L. 2118 F. 276

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Signature: *Stephen T. [unclear]* 5/30/19  
 DATE



OWNER/DEVELOPER

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 P.O. BOX 999  
 COLUMBIA, MD 21044  
 JIM GREENFIELD  
 443-324-4732

EXISTING CONDITIONS & DEMOLITION PLAN  
 GROVE PROPERTY  
 8438 HIGH RIDGE ROAD  
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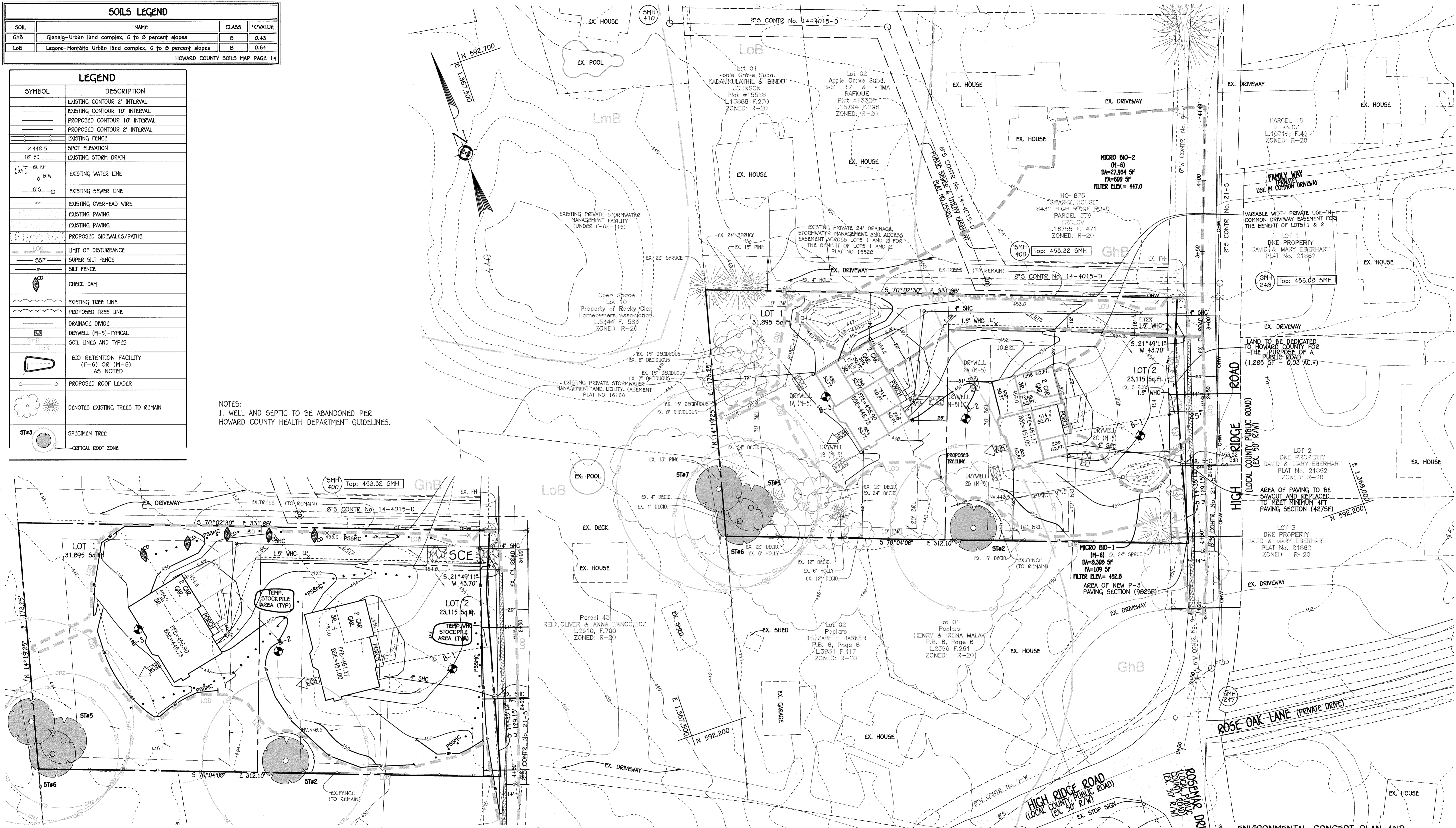
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 SHEET 2 OF 3

SOILS LEGEND			
SOIL	NAME	CLASS	'K' VALUE
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LoB	Legore-Montalto Urban land complex, 0 to 8 percent slopes	B	0.64

HOWARD COUNTY SOILS MAP PAGE 14

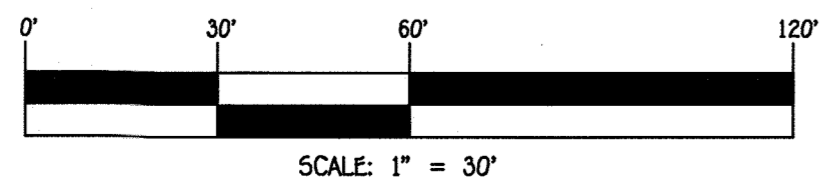
LEGEND	
SYMBOL	DESCRIPTION
---	EXISTING CONTOUR 2' INTERVAL
---	EXISTING CONTOUR 10' INTERVAL
---	PROPOSED CONTOUR 10' INTERVAL
---	PROPOSED CONTOUR 2' INTERVAL
---	EXISTING FENCE
x 448.5	SPOT ELEVATION
---	EXISTING STORM DRAIN
---	EXISTING WATER LINE
---	EXISTING SEWER LINE
---	EXISTING OVERHEAD WIRE
---	EXISTING PAVING
---	EXISTING PAVING
---	PROPOSED SIDEWALKS/PATHS
---	LIMIT OF DISTURBANCE
---	SUPER SILT FENCE
---	SILT FENCE
---	CHECK DAM
---	EXISTING TREE LINE
---	PROPOSED TREE LINE
---	DRAINAGE DIVIDE
---	DRYWELL (M-5)-TYPICAL
---	SOIL LINES AND TYPES
---	BIO RETENTION FACILITY (F-6) OR (M-6) AS NOTED
---	PROPOSED ROOF LEADER
---	DENOTES EXISTING TREES TO REMAIN
ST#5	SPECIMEN TREE
---	CRITICAL ROOT ZONE

NOTES:  
1. WELL AND SEPTIC TO BE ABANDONED PER HOWARD COUNTY HEALTH DEPARTMENT GUIDELINES.



Approved: Department Of Planning And Zoning  
 Chief, Development Engineering Division  
 Chief, Division Of Land Development

**CONCEPTUAL SEDIMENT CONTROL PLAN**  
 SCALE: 1" = 30'



**PLAN**  
 SCALE: 1" = 30'

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 I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 36366, EXPIRATION DATE: 01/12/2020.

Signature: William J. Smith  
 Date: 5/30/19



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**ENVIRONMENTAL CONCEPT PLAN AND CONCEPTUAL SEDIMENT & EROSION CONTROL PLAN**  
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SAX MAP NO.: 18 GRID: 13 PARCEL NO:47  
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 SHEET 3 OF 3